IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Lester F. LUDWIG Serial No.: 09/812,400 Filed: March 19, 2001 Title: PROCESSING AND GENERATION OF CONTROL SIGNALS FOR REAL-TIME CONTROL OF MUSIC SIGNAL PROCESSING, MIXING, VIDEO, AND LIGHTING Group Art Unit: 2837 Examiner: Marlon T. Fletcher Confirmation No. 7356 Attorney Docket No.: 2152-3005	Certificate of Transmission/Mailing I hereby certify that this correspondence is being facsimile transmitted to the USPTO, transmitted via the Office electronic filing system, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below: January 14, 2008 — Date /Jeffrey J. Lotspeich/ Jeffrey J. Lotspeich Registration No. 45,737 Attorney for Applicant(s)

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P. O. Box 1450
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Sir:

This brief is in furtherance of the Notice of Appeal filed January 25, 2007, and is submitted responsive to the Notice of Panel Decision from Pre-Appeal Brief Review issued September 14, 2007. The Panel Decision, which was issued nearly eight months after Appellant filed a Pre-Appeal Brief Request for Review, indicated that the above-identified application remains under appeal because there is at least one actual issue for appeal. The Panel Decision reset the time period for filing this Appeal Brief to be one month from the September 14, 2007, mailing date of the Panel Decision. The October 14, 2007, one-month time period for filing this Appeal Brief has been extended three months to January 14, 2008, by concurrent submission of petition and payment of fees. Payment via credit card for the statutory fee in the amount of $255.00 is submitted herewith. Accordingly, Appellant submits the following:

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I. REAL PARTIES IN INTEREST

The real party in interest in this mater is the sole inventor, Lester F. Ludwig (hereinafter "Appellant").

II. RELATED APPEALS AND INTERFERENCES

Currently, there are two other related appeals which have been filed. These appeals have been filed in the following applications:

App. Ser. No.:	App. filing date:	Appeal filed:
10/702,262	November 5, 2003	January 29, 2007
10/703,023	November 5, 2003	July 25, 2006
10/737,042	December 15, 2003	December 12, 2007

Appellant notes further that there are approximately eight additional pending applications containing substantially the same disclosure as the above-identified applications, and which are assigned to the same Examiner as the present application and the three above-mentioned applications. Appellant anticipates that each of the eight pending applications, which if rejected, will also require an appeal to the Board of Appeals and Interferences. Appellant will endeavor to update this section of the present Appeal Brief when necessary to reflect the current status of such related appeals.

III. STATUS OF CLAIMS

Claims 30-60 are all the claims pending in the application, claims 1-29 having been previously canceled. Claims 30, 40, 43, 46, 49, and 51-57 are independent claims. Claims 30-40 stand rejected under 35 U.S.C. §102(e) as being anticipated by Suzuki (U.S. patent 5,981,859). Claim 41 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Lindemann et al. (U.S. patent 5,744,742). Claim 42 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Clark Jr., et al. (U.S. patent 4,365,533) and Wallace et al. (U.S. patent 5,095,799). Claims 43-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Sgroi (U.S. patent 5,357,048). The appeal is directed to the rejection to claims 30-60. A copy of the rejected claims appears in the Appendix of Claims on Appeal attached to the Appeal Brief.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection recited in the Office Action of January 11, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Briefly, with regard to independent claim 30, aspects of the present claim provide for a controllable low frequency oscillator that provides an outgoing control signal in the form of a MIDI signal and whose operation is determined from at least one low frequency oscillator parameter, such as frequency and waveform, that is set, adjusted, or selected responsive to an incoming control signal in the form of a MIDI signal. In some cases, pluralities of such oscillators, master/slave oscillator configurations, and separate waveform phase adjustments may be implemented. By way of example, such aspects are disclosed in paras. [0652] through [0654] of the publication of the present application. See also Fig. 67.

With regard to independent claim 40, aspects of the present claim provide for a controllable envelope generator that provides an outgoing control signal in the form of a MIDI signal and whose operation is determined from at least one envelope generator parameter that is set, adjusted, or selected responsive to an incoming control signal in the form of a MIDI signal. Some aspects provide for the envelope generator to be a ramp generator or slew limiter. By way of example, such aspects are disclosed in para. [0656] of the publication of the present application.

With regard to independent claims 43 and 46, aspects of the present claims provide for a control signal processing operation that obtains the numerical values from two separate incoming MIDI signals and performs a numerical operation on these two numerical values (addition in claim 43, multiplication in claim 46) to produce a third numerical value that is used to create a resultant outgoing MIDI control signal. Further aspects provide for further numerical operations, such as offset and scaling, to be applied to the original numerical operation before transmitting the resultant numerical value in the outgoing MIDI control

signal. By way of example, such aspects are disclosed in paras. [0611] through [0625] of the publication of the present application.

With regard to independent claim 49, aspects of the present claim provide for receiving two incoming MIDI control signals, each signal comprising an event and associated control signal value, and using the temporal relationship between the events together with the associated control signal values to determine the output value of a generated outgoing control signal. By way of example, such aspects are disclosed in paras. [0611] through [0627], and para. [0648], of the publication of the present application.

With regard to independent claims 51-53, aspects of the present claims provide for receiving an incoming MIDI control signal, performing a transformation on the type of event and value the control signal pertains to so as to pertain to a different type of control event, and transmitting an outgoing MIDI control signal with the transformed of the transformed event and value in an outgoing MIDI control signal. The transformations pertain to MIDI note events and MIDI continuous controller events. By way of example, such aspects are disclosed in paras. [0611] through [0616] of the publication of the present application. In addition, with regard to independent claims 54-56, the numerical operations pertain to linear transformations of multiplicative scaling, offset addition, and complementary transformations. By way of example, such aspects are disclosed in paras. [0611] through [0626] of the publication of the present application.

With regard to independent claim 57, aspects of the present claim provide for receiving an incoming MIDI note event control signal, performing a numerical operation on the value the control signal so as to implement a variably transposed intelligent harmony, and transmitting an outgoing MIDI control signal with the transformed of the transformed value

in an outgoing MIDI control signal. By way of example, such aspects are disclosed in paras. [0611] through [0613] of the publication of the present application.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 30-40 stand rejected under 35 U.S.C. §102(e) as being anticipated by Suzuki (U.S. patent 5,981,859). Claim 41 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Lindemann et al. (U.S. patent 5,744,742). Claim 42 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Clark Jr., et al. (U.S. patent 4,365,533) and Wallace et al. (U.S. patent 5,095,799). Claims 43-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Sgroi (U.S. patent 5,357,048).

VII. ARGUMENT

A. Suzuki fails to anticipate rejected claims under 35 U.S.C. §102(b)

Claims 30-40 stand rejected under 35 U.S.C. §102(e) as being anticipated by Suzuki (U.S. patent 5,981,859). Claims 30 and 40 are independent claims.

First of all, the present application has been pending at the USPTO for nearly seven years, and has been subjected to ten separate Office Actions (Office Actions issued: 1/23/02, 7/31/02, 3/12/03, 9/02/03, 3/29/04, 7/27/04, 1/13/05, 7/07/05, 1/11/06, 8/25/06). It is notable that only a single RCE has been filed (4/12/05). The vast majority of the Office Actions include a change in position by the Examiner, typically in the form of citing new references, and combinations of such references.

A concerning issue for which review is sought is that matters that have been presented in earlier Office Actions (Sgroi purportedly teaching an "incoming MIDI signal"), and which have been resolved, have recently resurfaced in the latest-two Office Actions. See, e.g., the Office Action of 9/2/03, pg. 5. Another general area of concern for which review is sought, as the record clearly shows, is that the Examiner has failed to reply to, or even acknowledge, a number of significant points provided by Appellant with regard to the patentability of the claims. This has resulted in improper one-sided prosecution such that the Examiner issues an Office Action, but never addresses or otherwise considers on the record the points raised by Appellant. Accordingly, Appellant submits that in addition to the identified matters, there are a number of clear errors in the Examiner's rejections. These errors will now be discussed.

A.1 Suzuki event generator 11 does not generate MIDI signals

Independent claim 30 recites "an incoming control signal interface adapted to receive an incoming MIDI control signal."

The Examiner has provided various comments with regard to the identified claim element. In particular, in the last Office Action, the Examiner indicated that performance event generator 11 and network interface 56 teach the identified limitation. (Office Action of 8/25/06). Moreover, in the latest interview, the Examiner clarified that event generator 11 of Suzuki is being used to teach the "incoming control signal interface" feature. (Interview Summary of 7/12/06). The Examiner, in his latest comments, further alleges that event generator 11 generates or otherwise provides a MIDI control signal, and includes an interface which transmits MIDI to the interface of unit 13. *Id.*

Appellant has submitted substantial evidence that the Examiner's conclusion is misplaced; event generator 11 does not generate a MIDI control signal. (See, e.g., Response of 6/12/06, pg. 14; Applicant's Interview Summary of 7/19/06, pgs. 3-5). Appellant emphasizes that event generator 11 has absolutely nothing to do with a MIDI signal. For example, Suzuki describes event generator 11 as follows:

> "A performance event generator 11 generates and/or outputs a performance event, the generator being, for example, a performance operator (keyboard or the like) and/or an automatic performance apparatus (sequencer or the like). A performance event is, for example, a key-on/off event which is supplied to a unit controller 13." (Col. 3, lines 36-41) (emphasis added).

Suzuki explicitly states that event generator 11 generates a key-on/off event, but does not say anything about this key-on/off event being MIDI. The Examiner makes the unsubstantiated statement in the Interview Summary that the event data from event generator 11 is MIDI, but such comments are wholly unsupported in the record. The Examiner never states where Suzuki indentifies that the event data from event generator 11 is MIDI. Moreover, Appellant has scoured the Suzuki patent and is unable to find any teaching relating to event generator 11 providing MIDI.

The Examiner's error on the rejection to this claim element for which Appellant seeks review is two-fold. First, Appellant has demonstrated that the key-on/off event of Suzuki is not the same thing as a MIDI control signal. To find otherwise is to construe this term in a manner which is wholly inconsistent with both the Suzuki disclosure and the meaning of this term as understood by one of ordinary skill. Second, the Examiner's comments of record do not identify the portion of Suzuki which purportedly teaches that the event data from generator 11 is MIDI. Such action violates requirements of MPEP 707, citing 37 CFR § 1.104(c)(2), which provides:

> "... When a reference is complex or shows or describes other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claims specified."

Because the Examiner has failed to sufficiently identify the particular portion of Suzuki relied upon to support the rejection (i.e., that the event data from generator 11 is MIDI), Appellant has been prevented a fair opportunity to address the merits of the Action.

A.2 No signal flow from unit controller 13 (or generator 11) to generator 12

Appellant now addresses the recited claim 30 feature of "a controllable low frequency oscillator comprising at least one parameter . . . wherein said value of said at least one parameter is determined by said incoming MIDI control signal."

Appellant has demonstrated that the position set forth by the Examiner is absolutely inconsistent with the teachings of Suzuki. In this regard, Appellant respectfully invites the Board's attention to Fig. 2 of Suzuki. The Examiner states in the latest rejection that (a) tone color information generator 12 and unit controller 13 teach "at least one parameter;" and (b)

event generator 11 teaches "said incoming MIDI control signal." (Office Action of 8/25/06, pg. 2).

Assuming *arguendo* that generator 12 teaches the claimed "at least one parameter," this parameter cannot be "determined by said incoming MIDI control signal" for the basic reason that there is no communication from generator 11 to generator 12. Appellant has made this point clear on several occasions. (See, e.g., Response of 6/12/06, pgs. 14 and 15; and Appellant's Interview Summary of 7/19/06, pgs. 6 and 7).

Examining this point in further detail, Appellant considers the logic set forth by the Examiner such that the claimed at least one parameter (tone color information generator 12 and unit controller 13) is determined by said incoming MIDI control signal (unit controller 13). However, Fig. 2 of Suzuki clearly demonstrates that the tone color information generator 12 provides input to unit controller 13, not the other way around as alleged in the Office Action.

Appellant previously requested clarification from the Examiner as to how the incoming MIDI control signal purportedly provided by event generator 11 can find its way to generator 12 when there is no signal flow from either event generator 11 or controller 13 to generator 12. (Response of 6/12/06, pgs. 14 and 15). The Examiner failed to respond to Appellant's position and simply replied that such comments were "moot in view of the new grounds of rejection." (Office Action, 8/25/06, pg. 7). The Examiner's reply is concerning for the basic reason that the Office Action of 8/25/06 did not include any new grounds of rejection.

In view of the above, Appellant has identified two clear errors with the Examiner's position. A first error for review involves the requirements of MPEP 707.07(f) which requires

that the Examiner ". . . take note of the applicant's argument and answer the substance of it." The Examiner did not respond to Appellant's comments in a manner consistent with MPEP 707.07(f) since the Examiner stated that such comments were "moot" in view of the new grounds of rejection. Again, the identified Office Action did not contain a new ground of rejection, and thus, the Examiner should have addressed Appellant's comments.

The second error relates to the clear distinction between the identified claim element and the disclosure of Suzuki. In particular, even if generator 12 provided "at least one parameter" as the Office Action alleges, the claimed at least one parameter is not determined by an incoming MIDI control signal from event generator 11. This is because there is no signal flow from generator 11, either directly or indirectly, to generator 12.

Appellant acknowledges that the Examiner did provide further comments on this issue in the Interview Summary of 7/12/06. In particular, the Examiner remarked "However, as explained by the examiner, the signals from both 11 and 12 are midi signals that work together in order to generate music at unit 13." (Interview Summary of 7/12/06). However, Appellant cannot discern the relevance of these comments to the current claim rejection (since the position in the Interview Summary is inconsistent with that which is set out in the Office Action) and that such comments do not address the fact that there is no communication from generator 11 to generator 12.

A.3 Suzuki LFO 17 does not generate MIDI signals

The next point relates to the claim 30 feature of "wherein said controllable low frequency oscillator is adapted to generate an outgoing MIDI control signal."

The Examiner has alleged, without requisite support, that LFO 17 of Suzuki provides

the claimed "outgoing MIDI control signal." (Office Action 1/11/06, pg. 2). Appellant submitted comments which demonstrated that the outputs of LFOs 17 are directed to the musical tone waveform generator units (15-1 through 15-m), which in turn create outgoing musical tone outputs. The outgoing musical tone outputs of Suzuki are absolutely not MIDI. (Response of 6/12/06, pgs. 16 and 17). Appellant emphasized to the Examiner that the LFOs 17 are not generated as MIDI, converted to MIDI, or exported as MIDI. *Id.*

Appellant concedes that MIDI is discussed in the opening of the Suzuki patent in the context of undesirable prior art (col. 1, lines 35-46), and in vague mention with regard to a software implementation depicted in Figure 6 (col. 7, lines 23-25). However, nowhere within these passages are outputs of the LFOs 17 described, included, nor implied.

There are three errors for review. The first error involves the requirements of MPEP 707.07(f) which, once again, requires that the Examiner ". . . take note of the applicant's argument and answer the substance of it." In the last Office Action of 8/25/06, the Examiner failed to respond or even acknowledge Appellant's comments on this point.

A second error relates to the Examiner's failure to sufficiently identify the particular portion of Suzuki relied upon to support the rejection that LFO 17 generates an outgoing MIDI control signal. Such action violates requirements of MPEP 707 and cited 37 CFR § 1.104(c)(2) (discussed above). Accordingly, Appellant has again been prevented a fair opportunity to address the merits of the Action since this position has never been clearly made by the Examiner. This is a particularly concerning matter since ten Office Actions have been issued in this case.

The third error relates to the clear distinction that the outgoing musical tone outputs of LFOs 17 of Suzuki are absolutely not MIDI, as called for by claim 30. Accordingly,

independent claim 30 is believed patentable for the reasons noted above and which have been made of record in the present case. (See, e.g., Response of 6/12/06, pgs. 16 and 17).

A.4 Position of the USPTO contains contradictory statements

Claim 30 recites "said value of said at least one parameter is determined by said incoming MIDI control signal."

Appellant finds the rejection to this element confusing since the record is not clear as to what component of Suzuki is being used to teach a "MIDI control signal," or the claimed "parameter." For instance, the Examiner first indicates that generator 11 teaches an "incoming MIDI control signal." (Office Action of 8/25/06, pg. 2; and Interview Summary of 7/12/06). The Examiner then states that this identical incoming MIDI control signal is taught by controller 13. (Office Action of 8/25/06, pg. 2).

To further confuse matters, the Examiner also alleges in the Interview Summary of 7/12/06 that the claimed "parameter" is determined based upon "both performance event and tone color information" (i.e., input from generators 11 and 12) (emphasis added). This statement contradicts the Office Action of 8/25/06 which states that this same "parameter" is determined by the so-called MIDI control signal from generator 11; the Action makes no mention of the involvement of generator 12. These inconsistencies prevent Appellant an opportunity to fully respond to the various rejections since it is unclear how the claim is being rejected.

B. Suzuki and Sgroi fail to render obvious rejected claims under 35 U.S.C. §103(a)

Claims 43-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Sgroi (U.S. patent 5,357,048).

B.1 Unjustified prosecution delay

In the ninth and tenth Office Actions of 1/11/06 and 8/25/06, respectively, the Examiner rejects claims 43-60 under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Sgroi. In these Actions, the Examiner relies upon Sgroi as teaching the claimed first and second incoming MIDI control signals.

The stated rejections are concerning since Appellant has personally discussed, at great length, the Sgroi patent with the Examiner. It has long been settled in the drawn out prosecution of the present application that Sgroi does not provide the required MIDI control signals. For instance, in the Office Actions of 1/13/05 and 7/7/05, which were both authored by the same Examiner of the latest-two Office Actions, the Examiner acknowledged that Sgroi does not provide the requisite MIDI input. These acknowledgments by the Examiner will now be addressed.

As a first example, the relevant passage of page 4 of the Office Action of 1/13/05 provides:

> Sgroi does not disclose that the control signal generator is one of transient or low frequency oscillator. Sgroi does not provide MIDI input.

As a second example, the relevant passage of page 6 of the Office Action of 7/7/05 provides:

> Sgroi does not disclose a plurality of MIDI inputs.
>
> However, Fay (2002/0124715) discloses a plurality of MIDI inputs (fig. 3) which are controlled through a processor (mapping component), wherein the inputs are synthesized as group through synthesizer (210).

It has therefore long been settled in the drawn out prosecution of the present application that Sgroi does not provide the required MIDI control signals (See also the Office Action of 7/27/04 (pg. 4), Office Action of 9/2/03 (pg. 5), and the Interview Summary of 6/25/03). The record is replete with reasons why Sgroi does not provide the required MIDI signals. (See, e.g., Response of 5/17/04, pgs. 14-16; and Response of 5/9/03, pgs. 2-5).

A first error for review is that the record contains absolutely no support for the latest position offered by the Examiner. A second error is that Appellant commented on this issue in the Response of 6/12/06, pgs. 18 and 19, but the Examiner never provided a response which addresses Appellant's position, in violation of the requirements of MPEP 707.07(f) which require that the Examiner ". . . take note of the applicant's argument and answer the substance of it." Appellant is at a loss as to why issues which have long been settled (Sgroi does not teach the required MIDI signals), are resurfacing in a manner which unjustifiably delays prosecution.

B.2 Sgroi does not provide requisite MIDI control signals

Independent claims 43, 46, 49 51-57 recite various MIDI control signals. Appellant has demonstrated in previous communications that Sgroi does not teach these MIDI control signals.

The Examiner agreed with Appellant on this point, as evidenced by the forgoing passages from previous Office Actions (discussed above in Sec. B.1). Appellant has thoroughly reviewed the Sgroi patent and is unable to locate where Sgroi provides such teachings. None of the Office Actions of record shed any additional light on this issue since they all fail to identify the portions of Sgroi relied upon to teach the "MIDI control signal" elements.

A first error for review involves the requirements of MPEP 707.07(f) which, once again, require that the Examiner ". . . take note of the applicant's argument and answer the substance of it." Appellant requested clarification from the Examiner on this point (Sgroi teaching MIDI control signals), but the Examiner failed to provide any response, or even acknowledge Appellant's concerns. (See Response filed 6/12/06, pgs. 18-19).

A second error relates to the Examiner's failure to sufficiently identify the particular portion of Sgroi relied upon to support the rejection that Sgroi teaches MIDI control signals. Such action violates requirements of MPEP 707 and cited 37 CFR § 1.104(c)(2) (discussed above), thus preventing Appellant a fair opportunity to address the merits of the Action.

To be clear, Appellant submits that Sgroi does not teach or suggest the various "MIDI control signal" elements recited in independent claims 43, 46, 49, and 51-57.

B.3 Suzuki does not provide MIDI

Appellant has provided comments above with regard to independent claim 30 that Suzuki does not teach or suggest outgoing MIDI control signals. This point was made of record in page 19 of the Response of 6/12/06. Because of this significant deficiency, Suzuki cannot therefore teach the various "MIDI control signal" elements recited in independent claims 43, 46, 49, and 51-57. In addition, the Examiner has never specifically addresses Appellant's position on this point, in violation of the requirements of MPEP 707.07(f) (discussed above). (See Office Action of 8/25/06, pgs. 7 and 8).

B.4 Multiplication is not "fast adding"

With regard to claim 43, as Appellant can best understand the rejection, the Examiner appears to maintain the notion that multiplication is "fast adding." (Office Action of 8/25/06). It was previously explained to the Examiner that Appellant is a recognized expert in the technological field to which the present application pertains. However, Appellant has never seen any reference which supports that the notion that in the realm of processing control signals, multiplication is simply "fast adding." (Response of 6/12/06, pg. 21). The following was also presented to aid the Examiner's understanding of Appellant's position. *Id.*

As an example, multiplying a signal value by 0.707 is not "fast adding." As another example, the quantity x^2 is not x "fast-added" to itself x times. Furthermore, multiplying is not implemented in either analog or digital circuitry, for example, using an adder or some notion of "fast adding." Appellant recognizes that the phrase "fast adding" is a great learning tool for initial exposure to arithmetic multiplication tables, but has absolutely nothing to do with, for example, scaling a signal or parameter value by fractional multiplicative factors.

The accumulation or summing which Suzuki purportedly provides cannot be equated to the "multiplying" recited in the identified claim.

In the last Office Action of 8/25/06, the Examiner failed to respond or even acknowledge Appellant's comments on this point, in contrast to the requirements of MPEP 707.07(f), thus providing a first point for review. Another error relates to the Examiner's allegation that "fasting adding" teaches the claimed multiplication. Appellant submits that such as position requires the claim term to be construed in a manner that is inconsistent with Appellant's specification and as one of ordinary skill would understand this term. Accordingly, independent claim 43 is believed patentable for these reasons, and which have been made of record in the present case. (See, e.g., Response of 6/12/06, pg. 21).

B.5 Rejection does not address independent claims 51-57

Appellant has carefully reviewed the last three Office Actions, and is unable to identify any discussion with regard to various claim elements of independent claims 51-57 (Office Actions of 7/7/05, 1/11/06, and 8/25/06). For instance, none of the identified Office Actions identify which portion of either Suzuki or Sgroi that purportedly teach:

- "obtaining a MIDI note number value" (claim 51),
- "obtaining a MIDI note velocity value" (claim 52),
- "obtaining a MIDI continuous controller value" (claim 53),
- "obtaining a MIDI continuous controller value" (claims 54-56), and
- "obtaining an incoming MIDI note number value" (claim 57).

In one Response in this matter, Appellant respectfully requested that the Examiner provide sufficient information with regard to the rejection of these claims so that Appellant can formulate a reasoned response. (Response of 10/7/05, pg. 6). However, it appears that the

Examiner is under the assumption that such identification is not a requirement of the USPTO. See the Office Action of 1/11/06, pg. 7, which provides:

> "The applicant argues that each claim is not identified in the rejection to claims 43-60. There is no requirement to identify each element with each claim, especially in a case where the claims are written in a manner to repeat language or vaguely change the language. All of the limitations of the claims are met by references applied in the rejection."

In response to the Examiner's comments, Appellant requested that the Examiner either: (a) identify the particular part of the reference relied upon to reject each claim limitation; (b) provide authority which allows an Examiner to reject a claim without identifying the claim element and the portion relied upon for the rejection; or (c) withdraw the rejection to the identified claims. (Response of 6/12/06, pg. 20). The subsequent Office Action of 8/25/06 failed to address Appellant's comments.

One error for review relates to the Examiner's failure to sufficiently identify the particular portion of Suzuki and/or Sgroi relied upon to support the rejection. Again, claims 51-57 are simply rejected without providing any information, whatsoever, as to the basis for such rejections. Appellant's request for clarification of this matter has fallen on deaf ears. Failing to provide Appellant with necessary information to form a response runs afoul of the requirements of MPEP 707 and cited 37 CFR § 1.104(c)(2) (discussed above).

C. Claims currently in condition for allowance

Appellant has demonstrated a number of errors in the rejections to claim 30. Since independent claim 40 has language similar to that of claim 30, it is believed that similar errors exist with regard to the rejections to this claim. Appellant has also demonstrated a number of errors with the rejections to independent claims 43, 46, 49, and 51-57. Appellant therefore submits that the identified rejections are improper and that

independent claims 30, 40, 43, 49, and 51-57, as well as their respective dependencies, are allowable over the asserted references. Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the decision rejecting the identified claims and direct the Examiner to pass the case to issue.

Respectfully submitted,

Date: January 14, 2008

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CLAIMS APPENDIX

30. A control signal processing system for responsively generating MIDI control signals, said system comprising:

an incoming control signal interface adapted to receive an incoming MIDI control signal;

a controllable low frequency oscillator comprising at least one parameter, said at least one parameter comprising a value selectable from a plurality of values, wherein said value of said at least one parameter is determined by said incoming MIDI control signal, and wherein said controllable low frequency oscillator is adapted to generate an outgoing MIDI control signal responsive to said value of said at least one parameter; and

an outgoing control signal interface adapted to communicate said outgoing MIDI control signal.

31. The system according to claim 30, wherein frequency of said controllable low frequency oscillator is controlled by said value of said at least one parameter.

32. The system according to claim 30, wherein a waveform of said controllable low frequency oscillator is controlled by said value of said at least one parameter.

33. The system according to claim 30, further comprising:

a plurality of controllable low frequency oscillators, each comprising at least one parameter, wherein said at least one parameter, for each of said plurality of controllable low frequency oscillators, comprises a value selectable from a plurality of values, wherein said value of said at least one parameter is determined by said incoming MIDI control signal, and wherein each of said plurality of controllable low frequency oscillators is adapted to generate a separate outgoing MIDI control signal responsive to said at least one parameter.

34. The system according to claim 33, wherein one of said plurality of controllable low frequency oscillators is a master low frequency oscillator.

35. The system according to claim 34, wherein at least one of said plurality of controllable low frequency oscillators is a slave low frequency oscillator producing an oscillation that is driven by said master low frequency oscillator.

36. The system according to claim 35, wherein said slave low frequency oscillator produces an oscillation that is phase shifted.

37. The system according to claim 35, wherein said slave low frequency oscillator produces a waveform that is different from a waveform that is produced by said master low frequency oscillator.

38. The system according to claim 35, wherein phase of said slave low frequency oscillator is controlled by said value of said at least one parameter.

39. The system according to claim 35, wherein frequency of said master low frequency oscillator is controlled by said value of said at least one parameter.

40. A control signal processing system for responsively generating MIDI control signals, said system comprising:

an incoming control signal interface adapted to receive an incoming MIDI control signal;

a controllable envelope generator comprising at least one parameter, said at least one parameter comprising a value selectable from a plurality of values, wherein said value of said at least one parameter is determined by said incoming MIDI control signal, and wherein said controllable envelope generator is adapted to generate an outgoing MIDI control signal responsive to said value of said at least one parameter; and

an outgoing control signal interface adapted to communicate said outgoing MIDI control signal.

41. The system according to claim 40, wherein said controllable envelope generator is a ramp generator.

42. The system according to claim 40, wherein said controllable envelope generator is a transient generator comprising a slew limiter.

43. A method for processing control signals to generate a non-merging mathematical function of values of said control signals, said method comprising:

obtaining a first control signal value from a first incoming real-time MIDI control signal;

obtaining a second control signal value from a second incoming MIDI control signal;

numerically multiplying said first control value and said second control value to produce a multiplied value; and

generating an outgoing MIDI control signal based upon said multiplied value.

44. The method according to claim 43, wherein prior to said generating, said method further comprising:

adding an offset to said multiplied value.

45. The method according to claim 44, wherein said offset is determined by a third incoming MIDI control signal.

46. A method for processing control signals to generate a non-merging mathematical function of values of said control signals, said method comprising:

obtaining a first control signal value from a first incoming real-time MIDI control signal;

obtaining a second control signal value from a second incoming MIDI control signal;

numerically adding said first control value and said second control value to produce a summed value; and

generating an outgoing MIDI control signal based upon said summed value.

47. The method according to claim 46, wherein prior to said generating, said method further comprising:

multiplying said summed value by a scaling value.

48. The method according to claim 47, wherein said scaling value is determined by a third incoming MIDI control signal.

49. A method for generating an outgoing control signal, said method comprising:

receiving a first incoming MIDI control signal comprising a first event and a first control signal value;

receiving a second incoming MIDI control signal comprising a second event and a second control signal value;

identifying a temporal sequence of said first and second events of said first and second incoming MIDI control signals;

obtaining a first control signal value from a first incoming MIDI control signal;

obtaining a second control signal value from a second incoming MIDI control signal; and

generating an outgoing MIDI control signal comprising an output value determined by a combination of said temporal sequence, said first control signal value, and said second control signal value.

50. The method according to claim 49, wherein said first incoming MIDI control signal comprises a plurality of first events and a plurality of first control signal values; and wherein

said second incoming MIDI control signal comprises a plurality of second events and a plurality of second control signal values, said method further comprising:

identifying a temporal sequence of said plurality of first and second events of said first and second incoming MIDI control signals; and

generating said outgoing MIDI control signal comprising said output value determined by said temporal sequence of said plurality of first and second events, said first control signal value, and said second control signal value.

51. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI note event control signal;

obtaining a MIDI note number value from said incoming real-time MIDI note event control signal;

changing said MIDI note number value to a MIDI continuous controller value; and

generating an outgoing real-time MIDI control signal comprising said MIDI continuous controller value.

52. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI note event control signal;

obtaining a MIDI note velocity value from said incoming real-time MIDI note event control signal;

changing said MIDI note velocity value to a MIDI continuous controller value; and

generating an outgoing real-time MIDI control signal comprising said MIDI continuous controller value.

53. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI continuous controller control signal;

obtaining a MIDI continuous controller value from said incoming real-time MIDI continuous controller control signal;

changing said MIDI continuous controller value to a MIDI note value; and

generating an outgoing real-time MIDI note event control signal comprising said MIDI note value.

54. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI continuous controller control signal;

obtaining a MIDI continuous controller value from said incoming real-time MIDI continuous controller control signal;

multiplying said MIDI continuous controller value with a scale value; and

generating an outgoing real-time MIDI control signal comprising said MIDI continuous controller value multiplied by said scale value.

55. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI continuous controller control signal;

obtaining a MIDI continuous controller value from said incoming real-time MIDI continuous controller control signal;

adding an offset to said MIDI continuous controller value; and

generating an outgoing real-time MIDI control signal comprising said MIDI continuous controller value and said added offset.

56. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI continuous controller control signal;

obtaining an incoming MIDI continuous controller value from said incoming real-time MIDI continuous controller control signal;

generating an outgoing MIDI continuous controller value having a magnitude which is complementary to said MIDI continuous controller value; and

generating an outgoing real-time MIDI control signal comprising said outgoing MIDI continuous controller value.

57. A method for processing real-time MIDI control signals, said method comprising:

receiving an incoming real-time MIDI note event control signal;

obtaining an incoming MIDI note number value from said incoming real-time MIDI note event control signal;

changing said incoming MIDI note number value to an outgoing MIDI note number value according to a variably transposed intelligent harmony; and

generating an outgoing real-time MIDI note event control signal comprising said outgoing MIDI note number value.

58. The method according to claim 57, said method further comprising:

controlling said variably transposed intelligent harmony using information provided in a second incoming real-time MIDI control signal.

59. The method according to claim 58, wherein said second incoming real-time MIDI control signal is a MIDI note event control signal.

60. The method according to claim 58, wherein said second incoming real-time MIDI control signal is a MIDI continuous controller control signal.

EVIDENCE APPENDIX

No evidence is being entered nor relied upon in this Appeal.

RELATED PROCEEDINGS APPENDIX

There has been no Board decision for any of the applications identified in the Related Appeals section of this Appeal Brief.